RESEARCH DESIGN

Sampling

The proposed mediation model is tested on a sample drawn from the Indian service sector industry; demographic and other details of the sample are described in the subsequent section. Measurement scales pertaining to the variables in the study have been identified and a pre-test/pilot study has been carried out; this is described in the next section. The proposed mediator model is analyzed using structural equation modelling (SEM); use of SEM over simple regression has provided with a clear picture of the occurrence of the mediation influence for both the first- and second-order latent constructs in the study. Thus, the result provides a more detailed picture of the interaction between the various factors of the criterion, predictor and the mediator variable(s). For example it suggests which forms of justice (e.g., distributive, procedural, etc) would mediate through which core construct(s) of PsyCap (e.g., hope, optimism, etc) to influence a particular form of job satisfaction (e.g., work satisfaction, pay satisfaction, etc).

Measures

All variables in the study were measured using the scales described below. All items were responded on five-point Likert scale.

Organizational Justice

Organizational justice is measured using a twenty-item scale developed and validated by Colquitt (2001). This scale consists of the four components of justice, procedural justice (seven items), distributive justice (four items), interpersonal justice (four items), and informational justice (five items).
Job Satisfaction

Job satisfaction is measured using the abridged version of the Job Descriptive Index (JDI). The JDI was developed in 1969 by Smith and colleagues (Smith et al., 1969; Smith, Smith, & Rollo, 1974), this is a 72-item scale, however the abridged version of JDI consists of 25-items and is developed by Stanton and colleagues (Stanton et al., 2001). This scale measures satisfaction on five different aspects of the job: the work itself, pay, opportunity for promotion, satisfaction with supervision, and satisfaction with co-workers.

Organizational Commitment

Organizational commitment is measured using the 24-item scale by Allen & Meyer (1990). This comprises of eight items each for the three components of commitment (affective, normative and continuance), reliability coefficients for the original scale were above 0.70. (Allen & Meyer, 1990). This is the most popularly measure used for assessing commitment in organizational context.

Quality of Work Life

QWL is measured by a recently developed measure, Work-Related Quality of Life scale (WRQoL scale). This is a 23-item scale, developed by Van Laar and colleagues (2007). It is designed to capture perceptions of the working environment and employees' responses to them (Edwards, Van Laar, Easton, & Kinman, 2009; Van Laar et al., 2007). This scale identifies six factors of QWL (job and career satisfaction, general well-being, home-work interface, stress at work, control at work and working conditions).
Psychological Capital

Psychological capital is measured using the PsyCap questionnaire (PCQ), a 24-item scale, developed by Luthans and colleagues (Luthans et al., 2007a; Luthans, Youssef, & Avolio, 2007c). The items in PCQ are evenly distributed across four components of hope, optimism, self-efficacy, resilience.

Pilot Study

Since some of the scales were being used for the first time in the Indian context, a pilot study was conducted to test the scale properties. The sample for the pilot study consists of 53 employees from private sector organizations located in India, the major chunk of which is represented by employees from service oriented organizations; these mainly includes employees working in financial and IT companies. As per their job profile, they broadly fall into two categories, managerial and supervisory. The sample contains 51 percent managers and 49 percent supervisory level employees; 66 percent males and 24 percent females; 74 percent were in the age group of ‘upto 35 years’, 17 percent in the age group of ‘36-45 years’, and remaining 8 percent were in the age group of ‘above 46 years’. Demographic data of the study sample is presented in Table 16 (in Appendix). Data was collected personally by the primary researcher. The scales were tested for face validity and no item had to be dropped.

The reliability scores, mean, and standard deviation is presented in Table 1. The reliability measures for the scales of organizational justice, QWL and PsyCap are above 0.9 (Cronbach’s Alpha), which signifies high consistency of the measures. It is noted that the reliability estimates for job satisfaction are somewhat low (Cronbach’s Alpha is .537).
TABLE 1

Descriptive statistics (pilot study)

<table>
<thead>
<tr>
<th>Scale</th>
<th>Items</th>
<th>N</th>
<th>α</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>OJ</td>
<td>20</td>
<td>53</td>
<td>.937</td>
<td>1.8</td>
<td>4.85</td>
<td>3.533</td>
<td>0.744</td>
</tr>
<tr>
<td>QWL</td>
<td>25</td>
<td>53</td>
<td>.537</td>
<td>2.24</td>
<td>3.52</td>
<td>3.030</td>
<td>0.320</td>
</tr>
<tr>
<td>PsyCap</td>
<td>24</td>
<td>53</td>
<td>.617</td>
<td>2.04</td>
<td>3.96</td>
<td>3.036</td>
<td>0.357</td>
</tr>
<tr>
<td>JS</td>
<td>24</td>
<td>53</td>
<td>.909</td>
<td>2.0</td>
<td>4.67</td>
<td>3.434</td>
<td>0.594</td>
</tr>
<tr>
<td>OC</td>
<td>24</td>
<td>53</td>
<td>.925</td>
<td>2.0</td>
<td>5.0</td>
<td>3.688</td>
<td>0.565</td>
</tr>
</tbody>
</table>

Responses on all items were measured on a 5-point Likert-Scale

Abbreviations: OJ=Organization Justice; JS=Job Satisfaction; OC=Organizational Commitment

The scales were also checked for the construct validity. Generally, convergent and discriminant validity measures are considered as the two facets of construct validity (Campbell & Fiske, 1959). In other terms, construct validity focuses on the extent to which data exhibit evidence of (a) convergent validity, the extent to which different assessment methods concur in their measurement of the same construct; and (b) discriminant validity, the extent to which independent assessment methods diverge in their measurement of different constructs (Byrne, 2010). AVE (Average Variance Extracted) greater than 0.5 (Fornell & Larcker, 1981), and CR (Construct Reliability) greater than 0.7 (Hair Jr., Black, Babin, Anderson, & Tatham, 2006) or (Bagozzi & Youjae, 1988) is considered as a good explanation of convergent validity. The AVE of all the scales is at the prescribed acceptable level. The CR of all sub-scales except for the following scales is at acceptable level, satisfaction with work, satisfaction with pay, satisfaction with co-workers, affective commitment, and working conditions.

The second facet of construct validity, i.e., discriminant validity, is established when the AVE (average variance extracted) of the latent variable is greater than the shared variance with other latent variables. For instance, to have an acceptable level of Discriminant Validity, the Shared Variance 'SV' (square of Reg. Weights) should be less than the AVE of the total Scale (i.e. for discriminant validity between the
distributive and procedural justice scales, its SV should be less than the AVE of the organizational justice scale). As a result of the pilot study data, the discriminant validity is established.

For the purpose of the final study, we intend to sample from the Indian service sector mainly because as compared to other industries, the service industry in India faces high employee attrition and turnover. The issues become manifold, especially in the context of service sector because the industry significantly banks on its employees. Drawing instances from the literature, we strongly endorse that, enhanced job satisfaction and organizational commitment can check the problem of employee attrition and turnover (Benson, 2006; Carsten & Spector, 1987; Currrivan, 1999; Hulin, 1968; Mobley, 1977; Werbel & Gould, 1984). However, such satisfaction and commitment should result from employees’ perception of a better QWL and his/her belief about the possessed strengths. Needless to say, as described, employees’ perception of their QWL and PsyCap is highly influenced by an individual’s perception of the organizational fairness.

Yet another reason for basing the study in service sector industry is that, the link between what an employee is expected to perform and the actual deliverable is relatively vague. This could be primarily because the deliverables are almost intangible in nature and division of task share is also faint. Due to the intangible nature of deliverables and uncleanness of the task share, there may be possibilities of lower levels of job satisfaction. However, if the employees have a strong belief of their strengths and the overall QWL in the organization is better, it would directly enhance the level of employees’ job satisfaction and organizational commitment; given that these conditions are preceded by fair procedures and practices. This is also
in congruence with a recent review on QWL, which has called for an empirical study, specifically in the context of service sector employees (Bagtasos, 2011). More specific to the Indian context we also believe that, research needs to address the QWL issues in the service sector as it is posed to be one of the readily developing sectors of the Indian economy. Thus there exists scope and potential to study the service sector employees, and mainly issues as QWL and PsyCap which would directly address the satisfaction and commitment issues in the organization.

Main Study

Sample size estimates

The proposed sample size has been estimated on basis of the three different methods as available in the sampling literature. First, the item to response ratio estimate, it ranges from 1:4 to 1:10 (Hinkin, 1995, 2005). Thus, going by the most conservative estimate, the required sample size for this study would be 468 to 1170, given that there are a total of 117 items to be responded in the questionnaire.

Second, sample size for large population can be estimated using the following formula (Black, 2004; Rea & Parker, 1997).

\[ n = \frac{[(Z\alpha)^2 \times p \times (1-p)]}{(Cp)^2} \]

Where, \( Z\alpha \) is the Z score for \( \alpha \) level of significance; \( p \) is the population proportion; and \( Cp \) is the confidence interval for the population proportion. Thus, if we assume, 95% of confidence, 5% as confidence interval \( Cp \), and with a population proportion \( p \) as 0.5, then the estimated sample size would be 384.16.
Third, when we have estimated sample size using the item to response ratio and sample size estimation for large population method, it seems necessary to also consult the views of the researchers as what should be the maximum sample size. In this context, Cohen (1996), highlights that, “there would be little point to using more than 400 subjects per group, because that would result in a large chance of obtaining significant results…” (Cohen, 1996: 310). Similarly, it is also cautioned that, any time the sample size exceeds 400 respondents, the researcher should examine all significant results to ensure that they have practical significance, due to the increased statistical power of the sample size (Hair. Jr. et al., 2006).

**Data Collection**

On basis of the two methods of sample size estimation (Black, 2004; Hinkin, 1995, 2005; Rea & Parker, 1997) and argument on sample size (Cohen, 1996; Hair. Jr. et al., 2006), it was proposed to sample approximately 400 respondents, from the Indian service sector industry.

The questionnaire was prepared in two formats, printed and online version. For both formats, the questionnaire was split up in two parts; part one contained 68 items about the predictor and mediator variables (i.e., organizational justice, QWL, and PsyCap); second part contained 49 items of the two criterion variables (i.e., job satisfaction and organizational commitment). For all items the response format was a five-point Likert scale, ranging from 1 “strongly disagree” to 5 “strongly agree”. The respondents were requested to observe a minimum time gap of one hour between their responses to the two parts of the questionnaire. The questionnaire contained a cover letter which provided brief instructions to the respondents and also informed them of the purpose of the study. To avoid any form of common method bias to creep in, the
questionnaire was titled as "Quality of work life in an organization survey"; for instance, if prima facia the respondents would have been told that the response was elicited about justice or fairness conditions in their organization, then this might have caused any kind of social obligatory bias.

Hence, two methods of controlling common method bias have been used; first, temporal separation of the criterion and predictor variables (MacKenzie & Podsakoff, 2012; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003); second, psychological separation by labelling the questionnaire as "Quality of work life in an organization survey", which makes it appear that the measurement is not connected or related to the actual measurement of the criterion or the predictor variable (Podsakoff et al., 2003). Specifically, the temporal separation does this by allowing previously recalled information to leave short-term memory; and the psychological separation does this by reducing the perceived relevance of the previously recalled information in short-term memory. It is to note that the duration of human short term memory is defined to last only for 18 to 30 seconds, without rehearsal (Atkinson & Shiffrin, 1968; Baron, 2001).

In almost all cases the questionnaires were personally distributed to the respondents and a brief introduction about the purpose of the study was given. For the online version of the questionnaire, emails were sent personally; the emails contained an introduction about the study and a hyperlink to the two parts of the questionnaire. There were a couple of reply emails which intended to read the synopsis of the research work undertaken, which was then subsequently emailed to the respondents.

A total of 627 printed version of the questionnaires were distributed; of these 393 were returned by the respondents (62 per cent gross response rate), this included
39 incomplete. Thus only 354 were found to be complete and usable for analysis (56 per cent net response rate). For the online version of the questionnaire, it was emailed to 109 respondents with personal contact; of these 98 responded to the first part only (89 per cent gross response rate), and 86 responded to both parts (78 per cent net response rate). Thus the final sample available for analysis is that of 440 respondents (354 and 86 from printed and online version respectively) with an aggregate response rate of 60 per cent approximately. Hence forward the term sample for the purpose of this study would mean a sample size of 440 employees from Indian service sector industry.

All 440 employees belonged to service sector organizations located in the geographical territory of India. Specifically, for the type of industry, the sample respondents were from financial (banking & insurance), and IT based services organizations. There is almost an equal distribution of the sample amongst the four financial and three IT services based companies.